

DROSERA HARTMEYERORUM SPEC. NOV. (DROSERACEAE),
A NEW SUNDEW IN SECT. *ARACHNOPUS* FROM NORTHERN
AUSTRALIA

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Abstract: A new species of *Drosera* (sect. *Arachnopus*) from Kununurra, northern Western Australia is described.

Introduction

Australia is the main centre of diversity in the genus *Drosera* (Schlauer, 2000). It is thus not surprising that new species continue to be discovered and described from this continent. In contrast to most recent additions to the genus, the species to be dealt with here does not belong to the species-rich subgenera *Bryastrum* (pygmy sundews), *Ergaleium* (cormous sundews) or *Lamprolepis* (*D. petiolaris*-complex) but to the hitherto monotypic section *Arachnopus* (after exclusion of sect. *Prolifera*, cf. Schlauer, 1996) in subgenus *Drosera*.

Despite its clear relationship to the widespread and variable *D. indica*, the new species can readily be distinguished by erect (not spreading, not incurved-ascending), essentially glabrous (not glandular) scapes and pedicels, and especially by the presence of several (usually 3-10) non-mucilaginous emergences at the adaxial base of each leaf just proximal to the tentacular trapping surface (Figure 1). These emergences carry bright yellow, moriform (i.e. mulberry-shaped) heads that contrast with the usually dark red petiole. Although the various forms of *D. indica* are variable especially with respect to the extension and indumentum of the petiolar region, none of these forms has emergences like this, and in fact no other species of *Drosera* is known so far to possess similar structures. Although they are somewhat similar to the tentacles, their nature or function is not clear. Because they are formed even in juvenile plants, the new species is readily recognizable without microscopic investigation both in the field and in herbarium specimens. Based on observations of plants in cultivation, it is apparent these yellow emergences are not pathogenic in origin.

Description

Drosera hartmeyerorum SCHLAUER *spec. nov.*

Caulibus ascendentibus, foliis exstipulatis linearibus acutis petioliis brevibus stylibusque 3, ad basin bipartitis, D. indica affinis sed pedunculis (scapiformibus) erectis, haud patentibus neque incurvatis-ascendentibus, pedunculis pedicellisque glabrescentibus et praecipue emergentiis capitatis moriformibus in regione basali adaxiali foliorum differt.

TYPUS: Ord River region near Kununurra, W.A., Australia, 30. 4. 2001, S. Hartmeyer & I. Hartmeyer s.n. (Herbarium J.Schlauer — HOLO, K - ISO).

Roots few, fibrous, slightly thickened in distal part.

Plants ascending, stems usually up to 30 cm tall, erect (in young plants), stipi-

tate glandular, usually deep red. Leaves patent, later reflexed, exstipulate, linear, acute, adaxially circinnate in bud. Petioles short (up to 3 mm long), lamina with tentacles (ca. 1 mm on surface, up to 2 mm long towards the margins, frequently more than 5 mm long at apex) on its adaxial surface, stipitate glandular on abaxial surface, usually (2-) 3-5 (-6) cm long, ca. 1.5 mm wide, ca. 0.5 mm thick, with revolute margins. Stipitate, bright yellow, moriform emergences at basal portion on adaxial leaf surface (usually 0.5—5 mm from the point of attachment to the main axis). The stalks of these emergences are approximately as long as the stalks of the proximal surface tentacles (shorter than the distal or lateral tentacles). The moriform heads are ca. 5 times as large as the glandular heads of the tentacles, and (probably somewhat depending on the growth conditions) usually the size of the mucilaginous droplets secreted by the tentacles.

Inflorescences ca. 15 cm long in flower, up to 30 cm (in examined specimens, possibly even longer in some individuals) in fruit, lateral but erect (not incurved except for youngest portion with buds that forms a narrow hook or spiral at apex) in flower, diverging from the stem in an almost parallel fashion, not forming a discernible angle with and adnate to the stem for more than one internode. Towards fruiting time the peduncles become sprawling (together with the stems). At this stage they become bent in an irregular fashion. Indumentum glandular stipitate at base) becoming less dense with increasing distance from the stem and scape almost glabrous along the main portion of its length. Flowers in upper portion of inflorescence, inserted 7-15 mm apart on the peduncle, ebracteate, but scales irregularly interspersed on fertile portion of peduncle. Scales acute with ovate base, concave and incurved. Few moriform emergences (but no tentacles) usually present on adaxial surface of scales, abaxial surface glandular puberulent. Lowest scales up to 2 mm long and 1 mm broad, upper ones usually gradually decreasing in size. Pedicels patent (forming an angle of 70-90° with the peduncle), ca. 1 cm long, almost straight

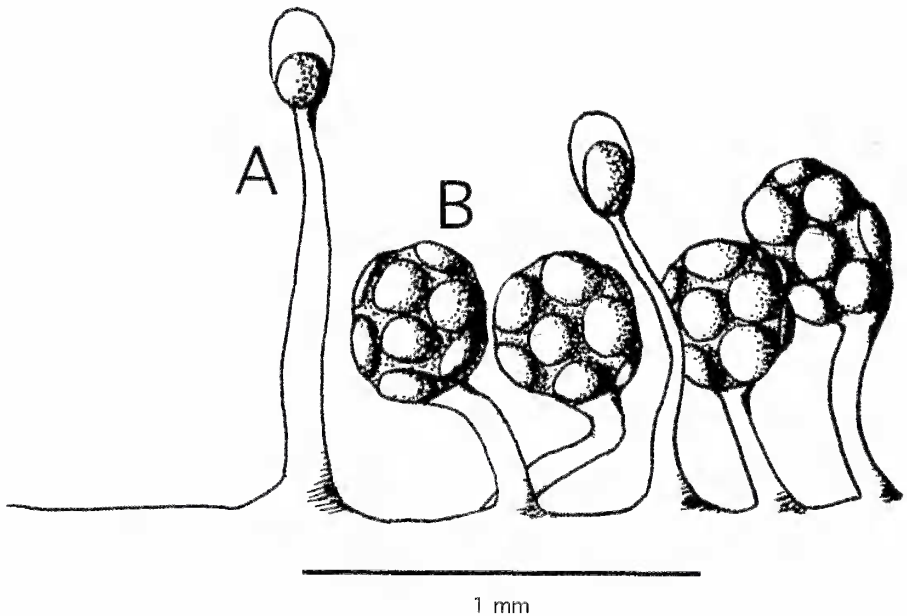


Figure 1: Tentacles (A) and emergences (B) at the leaf base of *D. hartmeyerorum*. Drawing after the type specimen.

in flower, more or less sharply inflexed distally (just below the calyx) in fruit, glandular puberulent only in distal portion (distal 3 mm). Sepals 5, ca. 2.5 mm long, ca. 1 mm wide, essentially free, broadly lanceolate, externally glandular puberulent, margins entire. Petals 5, ca. 5 mm long, ca. 3 mm wide, obovate-cuneate (sometimes apiculate), free, pink, margin basally entire, apically crenate. Stamens 5, alternating with petals, filaments 1-2 mm long, connectives broad but not conspicuously dilated in apical portions, anthers ca. 0.5 mm long, thecae almost parallel, yellow. Pollen yellow. Ovary with 3 locules, globular, styles 3, basally bipartite, filiform, incurved, ca. 3 mm long, white, apical stigmatic portion minutely papillose, not dilated, acute. Fruit a trivalvate capsule, included in withered remains of petals and sepals, globular, ca. 2.5 mm in diameter. Seeds minute (ca. 0.2 × 0.3 mm), ellipsoid, testa foveolate-reticulate (not papillose), black.

Color illustrations are provided in the accompanying article (Hartmeyer & Hartmeyer, 2001).

Distribution, Habitat, Phenology

D. hartmeyerorum is hitherto only known from the type locality. Similar plants have been depicted in the literature (e.g. by Mann, 1997) but the distinctive yellow emergences at the leaf base are not discernible on this illustration. The species may be more widespread, and an examination of herbarium material previously identified as *D. indica* may reveal a more accurate picture of the actual distribution of *D. hartmeyerorum*. The material investigated thus far (from Africa, Madagascar, India, Sri Lanka, China, Japan, and Australia) by the author did not reveal additional localities.

D. hartmeyerorum grows in wet *Pandanus* savannas in lateritic sands (i.e. an iron-rich, tropical sand substrate) marked by high humidity (but usually not submerged in water) and high temperatures throughout the year. The plants are supposedly annual *in situ* (like *D. indica*) but their ability to survive into a second growth period has not been investigated in the field.

Etymology

The new species is named to honour the efforts of Siegfried and Irmgard Hartmeyer who discovered and documented it on video tape in 1995. They returned to the type locality in 2001 to make further field observations (Hartmeyer & Hartmeyer, 2001).

Acknowledgements

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